Galveston Interagency Infrastructure Assessment Task Force
Status Report One

Friday, September 19, 2008

Prepared by: Southern Area Type 2 Incident Management Team

Task Force Mission and Scope

- IMT assigned to conduct a preliminary Infrastructure Assessment of the City of Galveston
- Charged with assessing condition of all categories to include debris, emergency services, water control facilities, buildings, utilities, hazardous waste, and transportation
- Local and JFO ESF members supported through Liaison Officer positions, either supporting remotely or as part of assessment teams
- Employing SWEAT reporting format, will eventually be augmented with preliminary estimates to achieve system functionality

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Team Status and effort first 24 hours

- Southern Area Type 2 IMT arrived evening of Thursday, 18 September in Galveston, TX
- Liaisoned and developed working relationships with local FEMA forward deployed leaders/staff, city and county leaders/staff and local infrastructure experts
- Gathered initial critical infrastructure assessment information from on-island subject matter experts and JFO ESF Liaisons
- Commenced initial eyes-on SWEAT model assessments across ESFs throughout Galveston Island, just preliminary assessments accomplished during first operational period.
- This status report is primarily based upon verbal/written information obtained from local, state, and federal assessments. Field verification will commence 20 September.

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Galveston Situation – Local Information

- Per information provided from local knowledge holders & briefs, it appears initially that:
- The most critical and essential challenges that exist to permit repopulation of Galveston are the achievement of a functional sewer system, water system, and power system.
- Other key infrastructure reports include:
  - One thousand feet of Pelican Island bridge approach is damaged. Repair expected before residents return to island.
  - Shipyard is open and will be ready for cruise ships on October 1.
  - The mayor and city manager both emphasized that the island is not devastated and is on the path to recovery.

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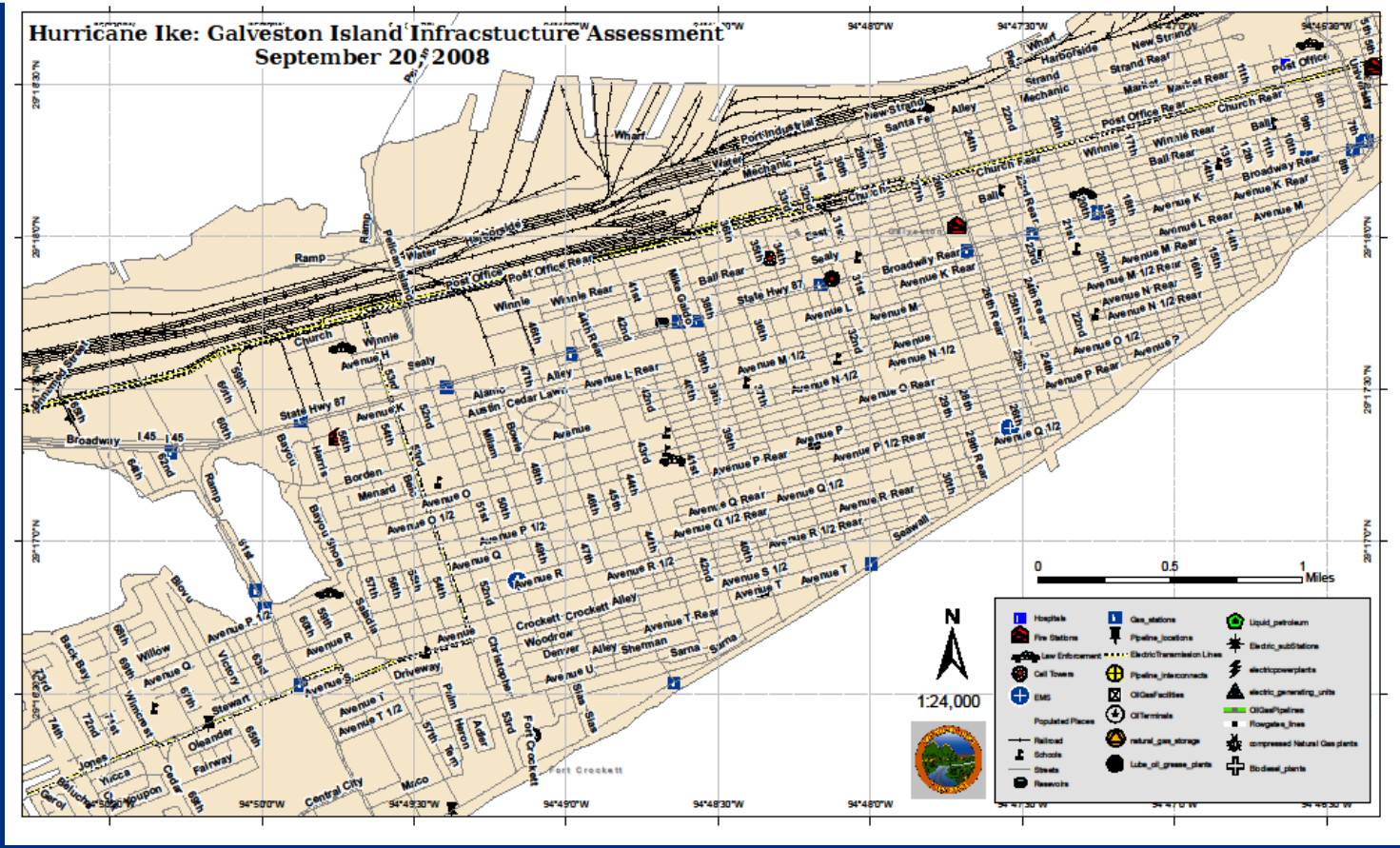
GIS-based Infrastructure Assessment

IMT is drawing critical infrastructure information from Geodatabase.

Will assist in locating key infrastructure and facilitate assessments



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Preliminary SWEAT methodology

- Conducted one operational period of preliminary SWEAT assessments across functions
- Employed primarily qualitative vice quantitative methodology to permit accelerated reporting, and to gain broad picture to permit improved assessment targeting during following days
- Employed standard SWEAT methodology
  - **SECURITY – includes Police, Fire, Hospitals, and EMS**
  - **WATER – includes Water and Sewage**
  - **ENERGY – includes Electricity and Fuel**
  - **ACCESSABILITY – includes Roads, Schools, Local Government, and Debris**
  - **TELECOM – including Telephone and Cellular**
- Using standard Red (0%-39%), Amber (40%-79%), and Green (80%-100%) methodology to assess current level of service

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SWEAT – Security - Police

Amber – 60%

- Current Estimated Level of Service – 60%

Causes of Indicator:

- Stations lacking electrical power, sewer and water service
- Fully staffed, but mutual aid is required to enforce city-initiated curfew and security checkpoints

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SWEAT – Security - Fire

Red – 25%

- Current Estimated Level of Service – 25%

Causes of Indicator:

- Facilities – 2 fire stations totally inoperable, 3 heavily damaged, central station damaged but operating on generator
- Reported loss of equipment (needs determination and verification of specifics)
- Stations lacking electrical power, sewer and water service, meaning no water available for firefighting
- Volunteer fire stations (4) loss will impact response times
- Expect increased fire risk as electrical grid comes online

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SWEAT – Security - Hospitals

Red – 30%

- Current Estimated Level of Service – 30%

Causes of Indicator:

- Facilities – First floor flooded, adjacent waterway contaminated
- Only emergency room and portable lab operational
- Operating solely at triage staffing with DMATs
- Hospital running solely on generator, lacking electrical power, sewer and water service

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SWEAT – Security - EMS

Amber – 45%

- Current Estimated Level of Service – 45%

Causes of Indicator:

- Only 4 of 10 pre-storm ambulances being employed (NFI)

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SWEAT – Water

Red – 10%

- Current Estimated Level of Service – 10%

Causes of Indicator:

- Sole mainland supply line may fail as suspended by heavily damaged rail bridge, condition unknown
- 2 0f 5 pumping stations currently operational – but only on generator power
- Extensive damage throughout community / structures including broken lines, pressure loss, and leaks
- Water has not been certified for drinking

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SWEAT – Sewage

Red – 10%

- Current Estimated Level of Service – 10%

Causes of Indicator:

- 2 of 6 sewage treatment plants running on generators
- 3 of 40 lift stations currently operational (8 more expected today)
- Extensive damage throughout community / structures including broken lines, pressure loss, and leaks
- Only 2 of 5 pumping stations are operating on emergency power
- Water has not been certified for drinking

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SWEAT – Energy – Electricity / Gas

Red – 20%

- Current Estimated Level of Service – 20%

Causes of Indicator:

- Minimal area of island has non-generator power (NFI)
- Shortage of critical equipment (NFI) delaying repairs
- Majority of system inoperable, due to inability of key sections of the system to maintain pressure

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SWEAT – Energy - Fuel

Red – 0%

- Current Estimated Level of Service – 0%

Causes of Indicator:

- None of the approximately 62 gas stations on the island are operational, but specific conditions currently unverified
- Return of electrical service will be a critical issue for fuel service restoration

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SWEAT – Accessibility - Roads

Amber – 75%

- Current Estimated Level of Service – 75%

Causes of Indicator:

- Approximately 16 miles of 2-lane roadways paralleling beach impassible or washed away
- Most roads passable / free of debris in roadway but with damaged or silt-filled drainage structures
- Traffic signals/control boxes inoperable, submerged likely requiring replacement, and most signage missing
- Several small residential bridges unsafe/impassible
- Galveston/Port Bolivar ferry inoperable.
- Return of electrical service will be a critical issue for traffic signal restoration

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SWEAT – Accessibility - Schools

Undetermined

- Current Estimated Level of Service – Undetermined

Causes of Indicator:

- Initial reports indicate schools suffered some damage, mainly from flooding, but extent and specific damage is currently unverified.
- Once water system, sewer system, and electrical system restored, anticipate rapid recovery of school system's ability to operate.

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SWEAT – Accessibility - Local Government Offices

Undetermined

- Current Estimated Level of Service – Undetermined

Causes of Indicator:

- Lack of functioning utilities, including power, water, sewage, and communications appear to be hampering local government from operating out of their own facilities.
- Extent to which this applies across all government functions is undetermined.

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SWEAT – Accessibility - Debris

Amber – 75%

- Current Estimated Level of Service – 75%

Causes of Indicator:

- Currently most debris has been moved from roadways
- Estimate 2 million cubic yards remaining
- Contractor and debris removal plan in place and actively employed, no federal requests as of yet.
- Anticipate significant growth in household / business debris once population returns

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SWEAT – Telecommunications/Cellular

Red – 30%

- Current Estimated Level of Service – 30%

Causes of Indicator:

- Damage to landlines uncertain, operating in a uncertain but anticipated limited nature on generator / battery power.
- Some wireless providers operating on reduced number of towers, but solely on generator power, employing mobile towers/boosters (COWS) to supplement services.
- 911 operational at one of two centers, but many telephone lines inoperable

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Hitting a Moving Target

- Even during first day in Galveston, observed noteworthy improvements in functionality across much of the critical infrastructure.
- Anticipate significant improvements across many functional indicators prior to the next reporting period.

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Anticipated work next 24-48 hours

- Continue field verification SWEAT assessments by joint IMT member and ESF representative teams
- Consolidate reports into GIS-linked database for continued tracking / reporting
- Develop robust reporting and metrics of database information
- Submit second status report to JFO Austin when team has obtained sufficient information to report

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Anticipated work for completion

- Complete SWEAT assessments for targeted infrastructure
- Determine need for additional assessments as necessary
- Determine ability / prepare ROM timeframe estimates for functionality / normality return for assessed infrastructure
- Complete final report, to include comprehensive, GIS-linked database

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